

**REMARKS**

Entry of the foregoing, re-examination and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.112, and in light of the remarks which follow, are respectfully requested.

At the outset, Applicants thank Examiner White for his time and consideration in participating in a telephonic Interview with Applicants' representative. At the conclusion of the Interview, it was agreed that the finality of the Official Action dated March 16, 2001, should be withdrawn (Interview Summary dated April 5, 2001).

By the above amendments, Claims 1-17 and 19 have been amended to replace "fibre" with "fiber." Claims 6 and 13 have been amended for readability. Claim 11 has been amended to replace "gelan" with "gellan."

In the Official Action, Claims 1-17 and 19 stand objected to for the reasons set forth at page 3 thereof. The above amendments obviate this rejection by replacing the terms "fibre" and "gelan" with "fiber" and "gellan," respectively. Accordingly, withdrawal of this objection is now in order.

Claims 1-17 and 19 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,549,861 (*Huber et al*). This rejection should be withdrawn for at least the following reasons.

According to one aspect of the present invention as defined by Claim 1, a method is provided of producing polysaccharide fibers. The method includes the steps of dissolving a polysaccharide in a solvent, thereby forming a solution, and spraying the solution into a

bath which contains a water-miscible organic solvent and a cross-linker. The solvent dissolving the polysaccharide is water.

*Huber et al* relates to a process for the production of shaped structures of cellulose with the aid of cellulose derivatives (*Huber et al* at col. 1, lines 7-9). *Huber et al* discloses that cellulose derivatives are dissolved to give a viscous shaping solution and the solution is filtered and processed by a dry shaping process to give shaped structures of cellulose derivatives (*Huber et al* at col. 2, lines 2-7).

*Huber et al* does not disclose or suggest each feature of the present invention. For example, *Huber et al* does not disclose or suggest spraying, into a bath, a solution that is formed by dissolving a polysaccharide in a solvent, as recited in Claim 1. In stark contrast with the present invention, *Huber et al* discloses that a solution containing dissolved cellulose derivatives is filtered and processed by a dry shaping process to give shaped structures of cellulose derivatives. In this regard, *Huber et al* discloses the following:

In the dry shaping process, the shaping solution is pressed through a die, with shaping, into a hot stream of gas, the solvent evaporates in the hot gas and the shaped structure formed is drawn off from the die at a high speed. The shaped structure is then wound up, deposited in cans or further treated directly.

*Huber et al* at col. 2, lines 30-35. It is apparent that the solvent of the shaping solution of *Huber et al* is evaporated to form a shaped structure, for example, fibers (*Huber et al* at column 2, lines 36-38). Absent Applicants' own disclosure, one of ordinary skill in the art would not have been motivated to spray a polysaccharide solution into a bath, because *Huber et al* discloses evaporating a solvent of a cellulose derivative solution using a hot

stream of gas to form a shaped structure. In stark contrast with the present invention, *Huber et al* discloses pressing a shaping solution through a die into a hot stream of gas. Certainly, a hot stream of gas cannot properly be considered the same as or suggestive of a bath, let alone a bath which contains a water-miscible organic solvent and a cross-linker.

Furthermore, the Official Action at page 2 states that *Huber et al* discloses that fibers are hydrolyzed in methanolic KOH. In stark contrast, a polysaccharide solution is sprayed into a bath according to one aspect of the present invention. Certainly, the fibers of *Huber et al* cannot be properly considered the same as or suggestive of the polysaccharide solution which is sprayed into a bath, as presently claimed.

In addition, as correctly noted in the Official Action at page 2, *Huber et al* does not disclose or suggest a bath which contains a water-miscible organic solvent and a cross-linker, as recited in Claim 1. In fact, *Huber et al* has absolutely no mention of a cross-linker, let alone a bath containing a water-miscible organic solvent and a cross-linker.

U.S. Patent No. 5,532,350 (*Cottrell et al*) fails to cure each of the above-described deficiencies of *Huber et al*. The Examiner relies on *Cottrell et al* for allegedly suggesting that the use of cross-linked polysaccharides to prepare absorbent materials is well known in the art (Official Action at pages 2 and 3). However, like *Huber et al*, *Cottrell et al* has no disclosure or suggestion of spraying, into a bath, a solution that is formed by dissolving a polysaccharide in a solvent, as recited in Claim 1. *Cottrell et al* merely discloses adding a cross-linking agent to a solution of a polysaccharide (*Cottrell et al* at col. 5, lines 27-29). For at least this reason, no *prima facie* case of obviousness has been established.

Furthermore, *Cottrell et al* is not properly combinable with *Huber et al* in the manner set forth in the Official Action. In this regard, assuming (incorrectly) that *Cottrell et al* does suggest that "the use of cross-linked polysaccharides to prepare absorbent materials is well known in the art," no motivation exists to use such a cross-linker in the *Huber et al* process because *Huber et al* has absolutely no mention of absorbent materials. In stark contrast, *Huber et al* relates to a cellulose derivative structure that can be regenerated by heat treatment and/or by chemical hydrolysis (*Huber et al* at col. 2, lines 43-45). As such, no *prima facie* case of obviousness has been established.

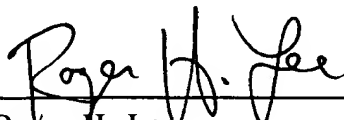
Accordingly, for at least the reasons set forth above, withdrawal of this §103(a) rejection is respectfully requested.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

If the Examiner has any questions relating to this amendment, or the application in general, he is invited to telephone the undersigned at his earliest convenience.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By:   
\_\_\_\_\_  
Roger H. Lee  
Registration No. 46,317

P.O. Box 1404  
Alexandria, Virginia 22313-1404  
(703) 836-6620  
Date: July 16, 2001

**Attachment to Amendment dated July 16, 2001**

1. (Three Times Amended) A method of producing polysaccharide [fibres,] fibers, comprising the steps of dissolving a polysaccharide in a solvent, thereby forming a solution, and spraying the solution into a bath which contains a water-miscible organic solvent and a cross-linker, wherein the solvent dissolving the polysaccharide is water.

2. (Twice Amended) A method of producing polysaccharide [fibres] fibers according to claim 1, further comprising the steps of stretching, rolling-up, drying and cutting the polysaccharide [fibres] fibers after the bath.

3. (Three Times Amended) A method of producing polysaccharide [fibres] fibers according to claim 1, wherein the organic solvent is an alcohol or a ketone.

4. (Twice Amended) A method of producing polysaccharide [fibres] fibers according to claim 3, wherein the organic solvent is methanol, ethanol, isopropanol or acetone.

5. (Three Times Amended) A method of producing polysaccharide [fibres] fibers according to claim 1, wherein the cross-linker is a polyelectrolyte.

**Attachment to Amendment dated July 16, 2001**

6. (Twice Amended) A method of producing polysaccharide [fibres] fibers according to claim 5, wherein the cross-linker is polyvinylamine or [Polybrene® (hexadimethrinbromide)] hexadimethrinbromide.
7. (Three Times Amended) A method of producing polysaccharide [fibres] fibers according to claim 1, wherein the cross-linker is a salt where the cation in the salt is a metal ion.
8. (Twice Amended) A method of producing polysaccharide [fibres] fibers according to claim 7, wherein the cation in the salt is divalent, trivalent or quadrivalent.
9. (Twice Amended) A method of producing polysaccharide [fibres] fibers according to claim 8, wherein the cation in the salt is calcium, magnesium, iron, aluminium or zirconium.
10. (Three Times Amended) A method of producing polysaccharide [fibres] fibers according to claim 7, wherein the anion in the metal salt is chloride.
11. (Four Times Amended) A method of producing polysaccharide [fibres] fibers according to claim 1, wherein the polysaccharide is comprised of carboxymethyl cellulose, starch, [gelan,] gellan, pectin or alginate.

**Attachment to Amendment dated July 16, 2001**

12. (Three Times Amended) A method of producing polysaccharide [fibres] fibers according to claim 1, further comprising the step of cross-linking the [fibre] fiber covalently in a following stage.

13. (Three Times Amended) A polysaccharide [fibre,] fiber, comprising a polysaccharide fiber [fibre] having been produced according to the method of claim 1.

14. (Twice Amended) A polysaccharide [fibre] fiber according to claim 13, wherein the [fibre] fiber has been solvent-spun and has a degree of substitution greater than 0.35, is cross-linked, and insoluble, but swellable, in water.

15. (Three Times Amended) An absorbent structure in an absorbent article, wherein the absorbent structure includes polysaccharide [fibres] fibers having been produced according to claim 1.

16. (Amended) The absorbent structure according to claim 15, wherein the absorbent article is selected from the group consisting of a diaper, an incontinence guard and a sanitary napkin.

17. (Amended) A method of producing polysaccharide [fibres] fibers according to claim 1, wherein the cross-linker ionically cross-links the polysaccharide.

**Attachment to Amendment dated July 16, 2001**

19. (Amended) A method of producing polysaccharide [fibres] ~~fibers~~ according to claim 1, wherein the bath is acidic.